

Notice of Allowability

Application No.

10/645,740

Examiner

Farhan M. Syed

Applicant(s)

BARSNESS ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 05/22/2006.
2. ☒ The allowed claim(s) is/are 1,2,4-17,19-22,24-37 and 39-42.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☒ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date herein.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


JEFFREY L. SMITH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

DETAILED ACTION

1. Applicant's amendments and arguments filed 22 May 2006 have been fully considered and they are deemed to be persuasive.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Gero McClellan (Reg. No. 44,227) on 26 July 2006.

3. An examiner's amendment to the amendment filed 22 May 2006 appears below. Should the changes and/or additions be unacceptable to the Applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

4. The application has been amended as follows:

1. (Currently Amended) A method for optimizing execution of a query that is repeatedly issued from an issuing entity against a database, the method comprising:

prior to executing the query against the database to obtain an initial query result:

(i) determining an amount of system resources required for executing the query; and

(ii) managing the re-execution of the query ~~only~~ if the determined amount exceeds a predetermined threshold value;

executing the query against the database to obtain ~~[[an]]~~ the initial query result;

returning the initial query result to the issuing entity; and

managing re-execution of the query by:

storing the initial query result in a temporary query result data structure;

executing a trigger procedure for tracking database changes;

when the trigger procedure detects a database change, updating the temporary query result data structure on the basis of the detected database change; and

when the query is submitted for re-execution against the database, returning the temporary query result data structure to the issuing entity.

3. (Cancel) The method of claim 1, further comprising, prior to executing the query against the database to obtain the initial query result:

determining an amount of system resources required for executing the query; and

managing the re-execution of the query ~~only~~ if the determined amount exceeds a predetermined threshold value.

4. (Currently Amended) The method of claim ~~[[3]]~~ 1, wherein the predetermined threshold value is one of user-specific, application-specific and system-specific.

14. (Currently Amended) A method for optimizing system resources used to execute a query that is repeatedly issued from an issuing entity against a database, the method comprising:

tracking changes to the database; [[and]]

if a database change is detected:

retrieving a temporary query result data structure storing a query result obtained from a previous execution of the query;

updating the temporary query result data structure on the basis of the detected database change; and

if the query is submitted for re-execution against the database, returning the temporary query result data structure as a query result to the issuing entity; and

prior to the tracking:

determining an amount of system resources required to execute the query; and

tracking the changes to the database only if the determined amount exceeds a predetermined threshold value.

18. (Cancel) The method of claim 14, further comprising, prior to the tracking:

determining an amount of system resources required to execute ~~for execution~~ of the query; and

tracking the changes to the database only if the determined amount exceeds a predetermined threshold value.

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19. (Currently Amended) The method of claim ~~[[18]]~~ 14, wherein the predetermined threshold value is one of user-specific, application-specific and system-specific.

21. (Currently Amended) A computer readable medium containing a program which, when executed, performs a process for optimizing execution of a query that is repeatedly issued from an issuing entity against a database, the process comprising:

prior to executing the query against the database to obtain an initial query result:

determining an amount of system resources required for executing the query; and

managing the re-execution of the query only if the determined amount exceeds a predetermined threshold value;

executing the query against the database to obtain ~~[[an]]~~ the initial query result;

returning the initial query result to the issuing entity; and

managing re-execution of the query by:

storing the initial query result in a temporary query result data structure;

executing a trigger procedure for tracking database changes;

when the trigger procedure detects a database change, updating the temporary query result data structure on the basis of the detected database change; and

when the query is submitted for re-execution against the database, returning the temporary query result data structure to the issuing entity.

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23. (Cancel) The computer readable medium of claim 21, wherein the process further comprises, prior to executing the query against the database to obtain the initial query result:

determining an amount of system resources required for executing the query; and

managing the re-execution of the query only if the determined amount exceeds a predetermined threshold value.

24. (Currently Amended) The computer readable medium of claim ~~[[23]]~~ 21, wherein the predetermined threshold value is one of user-specific, application-specific and system-specific.

34. (Currently Amended) A computer readable medium containing a program which, when executed, performs a process for optimizing system resources used to execute a query that is repeatedly issued from an issuing entity against a database, the process comprising:

tracking changes to the database; ~~[[and]]~~

if a database change is detected:

retrieving a temporary query result data structure storing a query result obtained from a previous execution of the query;

updating the temporary query result data structure on the basis of the detected database change; and

if the query is submitted for re-execution against the database, returning the temporary query result data structure as a query result to the issuing entity; and

prior to the tracking:

determining an amount of system resources required to execute the query; and

tracking the changes to the database only if the determined amount exceeds a predetermined threshold value.

38. (Cancel) The computer readable medium of claim 34, wherein the process further comprises, prior to the tracking:
determining an amount of system resources required for execution of the query; and
tracking the changes to the database only if the determined amount exceeds a predetermined threshold value.

39. (Currently Amended) The computer readable medium of claim ~~[[38]]~~ 34, wherein the predetermined threshold value is one of user-specific, application-specific and system-specific.

41. (Currently Amended) A data processing system comprising:
a database; and
a query optimizer residing in memory for optimizing execution of a query that is repeatedly issued from an issuing entity against the database, the query optimizer being configured for:
prior to executing the query against the database to obtain an initial query result:
determining an amount of system resources required for executing the query; and
managing the re-execution of the query only if the determined amount exceeds a predetermined threshold value;
executing the query against the database to obtain ~~[[an]]~~ the initial query result;

returning the initial query result to the issuing entity; and
managing re-execution of the query by:

storing the initial query result in a temporary query result data structure;

executing a trigger procedure for tracking database changes;

when the trigger procedure detects a database change, updating the temporary query result data structure on the basis of the detected database change; and

when the query is submitted for re-execution against the database, returning the temporary query result data structure to the issuing entity.

42. (Currently Amended) A data processing system comprising:
a database; and
a query optimizer residing in memory for optimizing system resource use for execution of a query that is repeatedly issued from an issuing entity against the database, the query optimizer being configured for:
tracking changes to the database; [[and]]
if a database change is detected:
retrieving a temporary query result data structure storing a query result obtained from a previous execution of the query;
updating the temporary query result data structure on the basis of the detected database change; and
if the query is submitted for re-execution against the database, returning the temporary query result data structure as a query result to the issuing entity; and
prior to the tracking:
determining an amount of system resources required to
execute the query; and

tracking the changes to the database only if the determined amount exceeds a predetermined threshold value.

Allowable Subject Matter

5. Claims 1, 2, 4-17, 19-22, 24-37, 39-42 and have been renumbered as claims 1-38 are allowed over the prior art of record.

6. The following is an examiner's statement of reasons for allowance: The closest prior art of record (Risch, U.S. Patent 5,471,629) does not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim), a method for optimizing execution of a query that is repeatedly issued from an issuing entity against a database, the method comprising: prior to executing the query against the database to obtain an initial query result: (i) determining an amount of system resources required for executing the query; and (ii) managing the re-execution of the query if the determined amount exceeds a predetermined threshold value; executing the query against the database to obtain the initial query result; returning the initial query result to the issuing entity; and managing re-execution of the query by: storing the initial query result in a temporary query result data structure; executing a trigger procedure for tracking database changes; when the trigger procedure detects a database change, updating the temporary query result data structure on the basis of the detected

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database change; and when the query is submitted for re-execution against the database, returning the temporary query result data structure to the issuing entity.

The dependent claims, being further limiting to the independent claims, definite and enabled by the specification are also allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farhan M. Syed whose telephone number is 571-272-7191. The examiner can normally be reached on 8:30AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FMS